Indian Health Service

National Data Warehouse
HL7 Data Transmission Guide

Customer's Guide and Reference Manual
Health Level 7 Standard for the IHS

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Information Technology Support Center (ITSC)

HL7 Data Transmission Guide

Customer's Guide and Reference Manual

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Introduction

This is the Indian Health Service (IHS) Health Level 7 (HL7) Implementation Guide for the IHS National Data Warehouse. The guide includes:

1) Health Level 7 – General Description and Vocabulary

2) IHS HL7 Specification (Based on HL7 Standard Version 2.4)

3) IHS HL7 Transmission Protocol

4) Reference Table Information

The IHS uses a generic interface with HL7 protocol standard for use by the National Data Warehouse (NDW) for exchanging health care data. The interface is based on the HL7 Standard, as specified in this Implementation Guide. Anyone wishing to interface with the NDW should become familiar with the HL7 Standard.

This guide is intended for use by the person(s) responsible for transmitting their facility's medical and dental information to the NDW according to the IHS HL7 Standard. It is assumed that the user of this guide has already acquired the knowledge and tools needed to prepare and submit data using HL7 Standards. There are many publicly and commercially available print/internet resources and software products available to navigate through the world of HL7 messaging. *See*, APPENDIX E, GLOSSARY, for more information about organizations and standards that relate to the HL7 Standard.

This guide will assist the person(s) responsible for locating and mapping their data to the list of requested data elements (*see*, APPENDIX D, DATA ELEMENTS), and ultimately, to the HL7 messages for transmission to the NDW. For certain data, this includes mapping to specific reference values (*see* APPENDIX C, REFERENCE TABLES).

This Implementation Guide is subject to modification and/or revision to incorporate changes, improvements and enhancements, or to support additional functionality added in later versions of the HL7 standard/protocol.

Health Level 7– General Description and Vocabulary

Health Level 7 (HL7) is the generally accepted standard for the exchange of certain specified types of medical information between applications. The standard dictates the content and format of the data to be exchanged.

HL7 is both the name of the standards developing organization and the collection of protocols that organization has developed and published. For more information, refer to the HL7 website (www.hl7.org).

Vocabulary and Definitions

As with any standard, there is a unique vocabulary for HL7. Some of the basics are included here. Since many of the definitions are intertwined, the list is presented here in alphabetical order for ease of reference. Some definitions may include other terms that are not defined until further down the list.

ACK

ACK is the abbreviation for Acknowledgement and is the outbound message supported by the NDW. If HL7 messages are streamed, ACK messages are sent to the sending facility's system to acknowledge receipt per *message*. Since the NDW receives HL7 messages in batches, an ACK message is sent to the sending facility's system to acknowledge receipt of the entire message *batch*. An ACK message may also be sent to Area and/or Site personnel upon request.

ADT

ADT is an acronym for Admission, Discharge, and Transfer, and is used within the HL7 Patient Administration transaction set to transmit new or updated information about patients. An ADT message type is the only inbound message type supported by the NDW.

Batch Header

The Batch Header is a special message that provides information for all of the messages between the Batch Header and the Batch Trailer. The Batch Header has two segments: 1) the standard Segment ID BHS, and 2) the IHS-specific header information Segment ID ZHS. Together, these two segments provide administrative information needed to interpret the file. Delimiters are set for Batch Header Segments independently from delimiters for Message Header Segments.

Batch Trailer

The Batch Trailer is a special message to indicate the end of the file. The standard Segment ID is BTS. The IHS-specific header information is Segment ID ZTS. Together, these two segments provide administrative information needed at the end of the message batch. The ZTS segment is followed by the BTS segment, which is always the last segment in the communication.

Component

A Component is a distinct piece of data. If the element is a compound element (*i.e.*, the element has more than one component), the Component Separator is used between each component. In a message segment, a component is the part of the message that can be mapped directly to a specific field in the receiving database. In other types of segments, it can give distinct information used to manage the data.

Data Type

A Data Type places restrictions on the contents of an element. While everything is transmitted in ASCII, and, therefore, is a character string, a data type is indicated for each element so that it can be appropriately formatted. For example, the date data type is

expected in CCYYMMDD format. If the string forwarded is "20030411", it will be transformed to the appropriate date (4/11/2003 or 11APR2003, or however the receiving system formats dates). If the string is sent in another format (*e.g.*, 4-11-2003), there is uncertainty as to how this would be interpreted.

Delimiters

HL7 allows the designation of delimiters to separate segments, elements, components, as well as indicating repeating data and an escape. HL7 has recommended a standard set of delimiters:

Delimiter	Delimiter Name
|	Element Separator
^	Component Separator
~	Repetition Separator
\	Escape Character
&	Sub-Component Separator

The Element Separator is the primary delimiter for the Message Segments and is always the fourth character in the Message Header Segment. The other delimiters immediately follow the Element Separator in the order shown above.

One additional delimiter, the Segment Terminator, occurs at the end of the segment and is a <CR> (carriage return or a hex0D in ASCII).

Element

An Element (also known as a data field) is a character string that is separated by the Element Separator. The string may have more than one component. For example, the element may be Patient Name, and the components could be Last, First, Middle. Each element is assigned a data type.

Message

A Message is a set of Message Segments that contain the pertinent data for one patient registration or encounter.

Message Header Segment

The Message Header Segment (Segment ID MSH) provides the information related to the whole message and is primarily administrative. This includes facility information, delimiters used in the message segments, application information, HL7 standard version and the type of event contained in the message. This is the first segment in a message, containing the message type and the event that caused the event.

Message Segment

A Message Segment is a group of Elements (also known as data fields) that have been defined as logically belonging to the same category (*e.g.*, Patient Identification or Patient Visit). Some have been established by the HL7 Standard 2.4. Others, known as "Z" segments, allow users, like IHS, to gather information not contained in the HL7 Standard.

Each segment has a three-character Segment ID, the elements, administrative information (if applicable to that segment type) and designated delimiters between each element.

The sequence of segments for a given event is significant. Each segment is designated as required or optional.

Trigger Event

A Trigger Event is the real world event that initiates an exchange of messages. In other words, it is the occurrence that caused the HL7 message to be created (*e.g.*, a patient visit). When the trigger event occurs, messages are created and placed into a holding file. The messages in the holding file will then be transmitted as a "batch" on a prearranged schedule. *See*, "TRANSMISSION PROTOCOLS" for more information on transmitting the messages.

IHS HL7 Specification (Based on HL7 Standard Version 2.4)

The following describes the messages that will be sent from a facility's information system to the NDW for the purpose of transmitting health care data. This information can include, but is not necessarily limited to, patient demographics, immunizations, diagnoses and other types of medical information.

General Specifications

The specifications detail is formatted using the following setup:

Message Definitions Specifications

For each supported trigger event, the message that is sent when the trigger event occurs is defined using the HL7 abstract message syntax as follows:

1) The segments in each message must be in the order defined for the trigger event.

2) Braces {…} indicate one or more repetitions of that group of segments.

3) Brackets […] indicate that the enclosed group of segments is optional.

4) If a group of segments is optional and may repeat it will be enclosed in brackets and braces {[…]}.

If a segment ID is indented, that segment is an extension of a primary segment. For example, PV1 is the HL7 Standard Version 2.4 Patient Visit Segment. ZV1 is the additional IHS Patient Visit segment that must be associated with a PV1 segment. Therefore, there would never be a ZV1 segment without a preceding PV1 segment.

Segment Attribute Grid Specifications

Each segment specification is presented in a grid. (*See* APPENDIX B, ADT SEGMENTS.) The columns and a description of their contents are:

Sequence

Seq Ordinal position of the data field within the segment.

Component

Comp Ordinal position of the component within the sequence.

Maximum Length

Len Maximum number of characters that NDW will support for one occurrence of a component. The maximum length listed may differ from the HL7 Standard maximum length to accommodate the specific needs of the NDW.

Data Type

DT Restrictions on the contents of the data field, generally described by the HL7 Standard. See APPENDIX A – DATA TYPES for the specific data types used by the NDW. The data types listed may differ from the HL7 Standard data types to accommodate the specific needs of the NDW.

Repetition

Rep Indicates the number of repetitions supported by the NDW. The designations are:

Rep	Description
<Blank>	No repetition
Y	The field may repeat an indefinite or site-determined number of times
<Integer>	The field may repeat up to the number of times specified in the integer

Element Name

Element Name Indicates the descriptive name for the data field. In a few cases, this may be different than the original HL7 Standard description.

Supported

Sup Indicates whether the field is supported in NDW. The designations are:

Sup	Description
Y	Supported
<Blank>	Not Supported

Description

Desc Indicates a more detailed description of the field. This column contains additional information on content and format of the element components.

Trigger Events

There are over 40 trigger events supported by the HL7 Standard. The NDW currently uses two trigger events – A08, triggered when specified patient-based information is changed (HL7 refers to this as updating patient information), and A31, triggered when specified encounter-based information is changed (HL7 refers to this as updating person information).

A31 – ADT - Update Patient Information

This trigger event is used when any patient information has changed. Messages compiled for A08 events for a particular patient should precede any A31-triggered messages for the same patient to insure the NDW does not receive any visits for unknown patients.

A08 – ADT - Update Person Information

This trigger event is used for encounter data. While registration information may be included in these messages for cross-reference purposes, registration information included in A31-triggered messages will not be used to update registration data in the NDW.

For purposes of transmitting data to the NDW, facilities will use the A08 and A31 events to trigger a queuing of the information needed to generate messages. Then, on an agreed-upon schedule, an additional event will retrieve the data from the facilities system, generate a batch of messages, including a batch header and trailer, and transmit that set of messages. *See*, the *Transmission Protocol* section for more details. It is not intended that messages will be streamed individually to the NDW at the time of the A08 or A31 trigger event.

Message Definitions

Each event has a defined order of segments. The two messages supported by the NDW are shown here.

Batch Headers and Trailers surround the inbound supported messages, as follows:

BHS – Batch Header Segment

ZHS – Batch Header Segment

A31 – ADT Patient Information Message(s)

A08 – ADT Person Information Message(s)

ZTS – IHS Batch Trailer Segment

BTS – Batch Trailer Segment

A31 – ADT - Update Patient Information Definition

Inbound Supported Segments:

Segment	Description
MSH	Message Header
EVN	Event Type
PID	Patient Identification
ZRB	IHS Base Registration
ZP2	IHS Patient Demographics
ZRD	IHS Demographic State
{[ZRL]}	IHS Alias
{ZRC}	IHS Chart
{IN1}	Insurance
ZIN	IHS Insurance Eligibility

A08 – ADT - Update Person Information Definition

Inbound Supported Messages:

Segment	Description
MSH	Message Header
EVN	Event Type
PID	Patient Identification
ZP2	IHS Patient Information
PV1	Patient Visit
ZV1	IHS Patient Visit
ZEN	IHS Encounter
{ZVP}	IHS Patient Provider
{DG1}	Diagnosis
ZDX	IHS Diagnosis
{PR1}	Procedure
ZPR	IHS Procedure
[ZPN]	IHS PHN
{[ZDN]}	IHS Dental
[ZDP]	IHS Dental Op
{[ZIM]}	IHS Immunization
{[ZMD]}	IHS Medication
{[OBX]}	Health Factors
{[OBX]}	Measurements

Reminder: indent signifies that the segment is an extension to the primary segment immediately preceding extension (e.g., ZV1, ZEN, etc., are extensions of PV1).

Reminder: {} indicate that the segment may be repeated.

Reminder: [] indicate that the segment is optional.

Segment	Description
{[OBX]}	Exams
{[OBX]}	CPT
{[OBX]}	Labs
{[OBX]}	Patient Education
{[OBX]}	Skin Tests

MESSAGE SEGMENTS

Segment types can be broken into four categories:

1) Batch Header Segments

2) Message Header Segment

3) Message Segments

4) Batch Trailer Segments

The specifications for message segments used in the NDW are contained in APPENDIX B, ADT SEGMENTS. *Also, see*, APPENDIX F for samples of messages produced using these specifications.

There are a number of the segments that contain components to be filled by "LOOKUP" or reference values. In these cases, the description in APPENDIX B will contain the word "LOOKUP" and the name of the lookup table. *See*, APPENDIX C (PARTS I and II), NDW REFERENCE TABLES, for important information on using reference tables to transmit data to the NDW.

REQUIRED FIELDS

The following fields are required for processing load data into the NDW:

1. **Source System Code** (SRC_SYS_CD): This field is generated by the Integration Engine for both A08 and A31 message types.

2. **Unique Registration Code** PID-3-2 (UNIQ_REG_CD): Required for all A31 messages.

3. **Unique Encounter Code** PV1-19-1 (UNIQ_ENCTR_CD): Required for all A08 messages.

4. **Field Change Code** ZRC-3-1 (FIELD_CHANGE_Code): Required for all A31 messages.

5. **Chart Number** ZRC-7-1 (CHART_NBR): Required for all A31 messages.

NOTE: There are other fields that are deemed minimum for User Population and Workload processing; these fields above represent only those data elements *minimally required for system processing* only.

TRANSMISSION PROTOCOLS

Data bound for the Integration Engine (IE) can be transferred in a number of ways. An IE support person will work with each facility to set up a data transfer method. Visit our website at www.ndw.ihs.gov for more information on contacting the NDW data processing team.

Some of the more common methods of connecting and sending data to the IE are described below.

FTP

FTP (File Transfer Protocol) is used to transfer programs or other information from one computer to another. Files would be transmitted to the Integration Engine (IE) in one of two ways:

1) The data is transmitted using a target IP address and directory path, through which the sending application would send (put) messages to the IE. For implementation, the IE support person provides to the facility the following information:

   User ID and password
   Target directory
   File-naming conventions
   Transmission schedule

2) The data is retrieved from the facility's application. The IE support person will specify file-naming conventions and work out a retrieval schedule. The facility provides the following information to the IE person:

   User ID and password
   Source directory
   File-naming conventions
   Transmission schedule

TCP/IP Using MLP

TCP/IP Using MLP (Transmission Control Protocol / Internet Protocol using Minimal Layer Protocol) is the most common method used to transmit real-time HL7 messages. This protocol creates a stream-oriented data transmission whose message boundaries are identified within the MLP code.

During implementation you will be provided with the Integration Engine IP address and a Port number to which your data should be sent.

For the Data Warehouse, the Integration Engine will accept batch messages using the MLP protocol, as defined in the HL7 standard.

TCP/IP

TCP/IP (Transmission Control Protocol / Internet Protocol) creates a stream-oriented data transmission using length encoding as the method for bounding messages.

You will be provided with a target IP address and Port number during implementation.

Appendix A – Data Types

This appendix lists the general attributes of the data types used by the NDW. This list is limited to those referenced in this guide.

Data Type Category/ Data type	Data Type Name	Format	Notes/Format
AD	Address	Demographics	<street address (ST)> ^ < other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ <address type (ID)> ^ <other geographic designation (ST)>
BL	Boolean	Alphanumeric	Used where there are only two values, usually Boolean/Flag values "Y" (for yes) or "N" (for no)' may also use other values, such as "A" (for active) or "I" for inactive). The description of the data element will specify its valid Boolean values.
CE	Coded element	Code Values	<identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>
CM	Composite	Generic	Variable number and nature of other components as defined for the element. (No new CM's are allowed after HL7 Version 2.2. Hence there are no new CM's in Version 2.3.)
CP	Composite price	Specialty/Chapter Specific	In Version 2.3, replaces the MO data type. <price (MO)> ^ <price type (ID)> ^ <from value (NM)> ^ <to value (NM)> ^ <range units (CE)> ^ <range type (ID)>
CX	Extended composite ID with check digit	Code Values	This data type is used for certain fields that commonly contain check digits (e.g. internal agency identifier indicating a specific person, such as a patient or client). DW1 does not support check digit functionality; therefore, only the 1st component is supported. Components: <ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ < assigning authority (HD))> ^ <identifier type code (IS)> ^ < assigning facility (HD)
DLN	Driver's license number	Master Files	<license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)

Data Type Category/ Data type	Data Type Name	Format	Notes/Format
DT	Date	Date/Time	CCYYMMDD
HD	Hierarchic designator	Identifier	Designed to be a more powerful application identifier. A single component HD (using only the first component value) is the same as the IS data type. If the first component for the HD data type is present, the second and third components are optional. If the third component is present, then the second must also be present (in this case the first is optional). Components: <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)> Used only as part of EI and other data types.
ID	Coded values for HL7 tables	Identifier	
IS	Coded value for user-defined tables	Identifier	
NM	Numeric	Numerical	
PL	Person location	Identifier	<point of care (IS)> ^ <room (IS)> ^ <bed (IS)> ^ <facility (HD)> ^ < location status (IS)> ^ <person location type (IS)> ^ <building (IS)> ^ <floor (IS)> ^ <location description (ST)>
PT	Processing type	Identifier	<processing ID (ID)> ^ <processing mode (ID)>
SI	Sequence ID	Numerical	
ST	String	Alphanumeric	
TM	Time	Date/Time	HHMM
TS	Time stamp	Date/Time	CCYYMMDDHHMM
VID	Version ID		
XAD	Extended address	Demographics	In Version 2.3, replaces the AD data type. <street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)> ^ <county/parish code (IS)> ^ <census tract (IS)>

Data Type Category/ Data type	Data Type Name	Format	Notes/Format
XCN	Extended composite ID number and name	Code Values	In Version 2.3, use instead of the CN data type. <ID number (ST)> ^ <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <source table (IS)> ^ <assigning authority (HD)> ^ <name type code (ID)> ^ <identifier check digit (ST)> ^ <code identifying t he check digit scheme employed (ID)> ^ <identifier type code (IS)> ^ <assigning facility (HD)>
XON	Extended composite name and ID number for organizations	Demographics	<organization name (ST)>^ <organization name type code (IS)> ^ <ID number (NM)> ^ <check digit (NM)> ^ <code identifying the check digit scheme employed (ID)> ^ <assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility ID (HD)>
XPN	Extended person name	Demographics	In Version 2.3, replaces the PN data type. <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <name type code (ID) >
XTN	Extended telecommunications number	Demographics	In Version 2.3, replaces the TN data type. [**N**NN] [(999)]999-9999 [X99999] [B99999] [C any text] ^<telecommunication use code (ID)> ^ <telecommunication equipment type (ID)>^ <email address (ST)> ^ <country code (NM)> ^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>

Appendix B – ADT Segments

This appendix contains the A08 and A31 ADT (Admission, Discharge, and Transfer) segments specified by the IHS (based on HL7 Standard 2.4) in their entirety. The elements that are supported by the NDW are indicated by a checkmark in the "Sup" column. Further descriptions of the segment grid columns are contained within this document.

For ease of use, the segments are listed in alphabetical order. However, please note that the actual messages must be transmitted in a very specific order or they will not be processed correctly. (For precise segment order for a specific message type, refer to the "Message Definitions" section of this guide.)

Also note that the "Com" column shows whether there are multiple components. If there are, the export should separate them with the component separator (the "^" character).

[insert Appendix here available via the website www.ndw.ihs.gov.]

Appendix C – Reference Tables

Within the segment grid, a field has a description that indicates the data to be provided from a "LOOKUP" table. Some of the lookup values will be provided for implementation with your facility's system. Other code sets are nationally accepted code sets. In the following description of National Lookup Tables, suggestions to review and obtain this information are provided.

National Lookup Tables

National Lookup tables are those code sets that are generally accepted in the medical information community. As such, there are entities that have been deemed to have the authority over creating and updating the code sets. Some links are provided as possible sources for the code sets. *Links to non-IHS organizations in this document are provided solely as a service. These links do not constitute an endorsement of these organizations or their programs by IHS or the Federal Government, and none should be inferred. The IHS is not responsible for the content of the individual organization webpages found at these links.*

NDW will use these code sets as updated by the appropriate authorities. The following code sets fall into this category:

ADA/CDT Codes
The American Dental Association (ADA) (http://www.ada.org/) is the source for ADA diagnosis/procedure codes, also know as CDT codes. HIPAA requires use of the current version of CDT-4 for electronic transmission dental information. If your facility needs more information, this site may be useful:
http://www.ada.org/prof/prac/manage/benefits/cdtguide.html.

HCPCS/CPT Codes
Healthcare Common Procedure Coding System (HCPCS) is a medical code set created in 1983 by the Center for Medicare and Medicaid Services (CMS), and is used to identify health care procedures, equipment and supplies. It was primarily designed for claims submission. There are three levels:

1. Level I contains AMA-maintained CPT codes.
2. Level II contains items and services not included in the CPT medical code set, and is maintained by the Centers for Medicaid and Medicare Services (CMS) (formerly the Health Care Financing Administration), BlueCross BlueShield Association (BCBSA) and Health Insurance Association of America (HIAA).
3. Level III contains codes assigned by Medicaid agencies for additional items not included in Level I or Level II. **NOTE**: Level III Local codes have been eliminated as of 12-31-2003, replaced by S or C code sections of HCPCS Level II.

Your facility may already be set up to update HCPCS and CPT codes. If needed, the following sites can be used as a starting point or a source of clarification on these code sets:

1. For HCPCS, http://cms.hhs.gov/medicare/hcpcs/.
2. For CPT, also see http://www.ama-assn.org/ama/pub/category/3113.html.

ICD9 Codes
The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) is a code set used to code and classify morbidity data from inpatient and outpatient records and physician offices. The National Center for Health Statistics maintains the icd 9 code system along with coordination from the Centers for Medicare and Medicaid Services.

The US adopted the WHO (World Health Organization) ICD9 code system in 1979. The US added the ICD9 V diagnosis code for health maintenance and ICD9 E diagnosis code for trauma. ICD-9-CM uses ICD9 code procedures for inpatient billing and ICD9 medical diagnosis codes.

There are numerous online sources for information about ICD9 codes. A starting place online could be these two sites:

1. The ICD-9-CM Coordination and Maintenance Committee, Centers for Medicaid and Medicare Services, Department of Health & Human Services, see http://cms.hhs.gov/paymentsystems/icd9/.
2. The Centers for Disease Control and Prevention (CDC), an agency of the Department of Health & Human Services, see http://www.cdc.gov/nchs/icd9.htm.

LOINC

Logical Observation Identifiers Names and Codes (LOINC®) are universal identifiers for laboratory and other clinical observations. The database and supporting documentation are maintained by The Regenstrief Institute (www.regenstrief.org). The LOINC database information can be found at http://www.loinc.org/. Note that there is a link to the current version of the LOINC for download in a variety of formats.

NDW supports the use of LOINC for capturing lab observations, but realizes that not all facilities have introduced LOINC into their systems. If LOINC are being used in your facility, you are encouraged to send all lab observations using those codes.

If your facility does not currently use LOINC, there are eight lab observations for which the IHS needs data at a national level. For that reason, the LOINC for those observations are included here:

LOINC_CD	LOINC_NM
2085-9	HDL Cholesterol
19762-4	Pap Smear
2089-1	LDL Cholesterol
2335-8	Fecal Occult Blood
2345-7	Glucose
2571-8	Triglycerides
2857-1	Prostate Specific Antigen
4548-4	HgbA1C

Please incorporate mapping from your facility's local taxonomy to the appropriate LOINC_CD noted above for these lab tests.

If your facility incorporates LOINC, submissions for additional lab observations may start at any time.

X12 Provider Taxonomy Codes

X12 is an ANSI-accredited group that defines electronic data interchange standards. For the NDW, the Provider taxonomy codes are the only X12 code sets used. There are three levels:

1. ANSI ASC X12 Health Care Provider Taxonomy, Level 1 - Type
2. ANSI ASC X12 Health Care Provider Taxonomy, Level 2 - Classification
3. ANSI ASC X12 Health Care Provider Taxonomy, Level 3 - Specialization

UB-92

Uniform Bill-92 (UB-92) is a standard for electronic claims submission. CMS uses the standard for Medicaid and Medicare claims, and other health insurance organizations have adopted the standard. For NDW, the standard is used only as a reference for "Insured's Relationship to Patient" in the HL7 IN1 segment. For more information, *see* http://www.hipaanet.com/hisb_ub92.htm.

HL7 Standard Code Sets for Immunizations (CVX and MVX)
CVX is the HL7 Standard Code Set of vaccines administered (parenteral, unless otherwise specified). The code set is maintained by the CDC's National Immunization Program (NIP). MVX is the HL7 Standard Code Set of manufacturers of vaccines administered. The code set is also maintained by the CDC's NIP.

VA Drug Class
This code set is an alpha-generic entity or pharmacologic class maintained by the Department of Veterans Administration Strategic Healthcare Group Pharmacy Benefits Management. For more information, *see* http://www.vapbm.org/pbm/natform.htm.

IHS-Specific Lookup Tables
IHS-specific code sets will be provided to facilities. If the facility is not currently using these code sets for data entry, it will be the facility's responsibility to translate the relevant data into a code to be submitted to the NDW. For more information, *see* http://dpsntweb1.hqw.ihs.gov/ciweb/main.html (this is the code sets to date – need additional).

The following code sets are to be used:

Appendix D – Data Elements

This appendix contains a list of the elements that the IHS would like to have transmitted from the facilities. More detailed information about each element can be found by cross-referencing the HL7 segment location listed below with the HL7 segment grids in Appendix B.

[insert Appendix here available via the website www.ndw.ihs.gov.]

Appendix E – Glossary

This appendix contains a glossary explaining terms found in this document, but it is not a legal document. The limited purpose of this glossary is to provide definition of some of the terms and acronyms used throughout this guide. The definitions are not intended to be detailed.

For convenience, links are provided for either the organization mentioned or the source of the glossary definition. Links are valid at the time of this writing, but IHS/NDW cannot guarantee their continued viability. Many of the links have a glossary as well, if research is your goal. Links to non-IHS organizations in this document are provided solely as a service. These links do not constitute an endorsement of these organizations or their programs by IHS or the Federal Government, and none should be inferred. The IHS is not responsible for the content of the individual organization web pages found at these links.

Item	Description
A31	Update patient information trigger event, primarily used for registration information.
A08	Update person information trigger event, primarily used for encounter (visit) information.
ACK	This is an inbound message as defined by the HL7 Standard used to acknowledge messages. There is an ACK specification for each message type, such as A08 and A31.
ADT	Admission, Discharge and Transmission. This is an outbound message as defined by the HL7 Standard. There are various types of messages, such as A08 and A31.
ANSI	American National Standards Institute, an association that administers and coordinates the U.S. voluntary standardization and conformity assessment system. (http://www.ansi.org/)
BCBSA	BlueCross BlueShield Association, an association of independent BlueCross Blue Shield companies. (http://www.bcbs.com/)
CDC	Centers for Disease Control and Prevention, an agency of the Department of Health & Human Services. (http://www.cdc.gov/.htm)
CMS	Centers for Medicare & Medicaid Services, formerly known as HCFA. CMS is an agency of the Department of Health & Human Services. The restructuring from HCFA to CMS was effective July 1, 2001. (http://cms.hhs.gov/)
CVX	Vaccines administered (parenteral, unless otherwise specified), the HL7 Standard Code Set as maintained by the CDC's National Immunization Program (NIP). (http://www.cdc.gov/nip/webutil/about/default.htm)
FTP	File Transfer Protocol.
HCFA	Health Care Financing Administration. HCFA was restructured to become CMS. (http://cms.hhs.gov/)
HHS	Department of Health & Human Services, the United State's government's principal agency for providing essential human services. (http://www.hhs.gov/)
HIAA	Health Insurance Association of America (HIAA). HIAA describes itself as "a member driven trade association that shapes and influences state and federal public policy through advocacy, research, and the timely accumulation, analysis, and dissemination of critical information to its members. (http://www.hiaa.org/)
HIPAA	Health Insurance Portability and Accountability Act of 1996. http://www.hhs.gov/ocr/hipaa/; see, also, http://www.ihs.gov/AdminMngrResources/HIPAA)
HL7	Health Level Seven is both the name of the standards developing organization and the collection of protocols that organization has developed and published.
IE	Commonly refers to either Integration Engine or Interface Engine, which are the two broad categories of middleware software used to perform integration functions so that individual sending applications do not need to incorporate integration/interface functions to accommodate sending data to the IHS DW. An Integration Engine is a software

Item	Description
	system designed to simplify the integration of application data and services. The purpose is to store the defined messages, normalize the data, and publish the data in the normalized format. An Interface Engine is a software system designed to simplify the creation of application interfaces between application systems. The purpose is to store and forward messages.
ISO	International Organization for Standardization, the world's largest developer of standards, principally the development of technical standards. The HL7 standard also follows the ISO's OSI model protocols governing communication between two systems. (http://www.iso.ch/iso/en/ISOOnline.openerpage)
MVX	Manufacturers of vaccines, the HL7 Standard Code Set as maintained by the CDC's National Immunization Program (NIP). (http://www.cdc.gov/nip/webutil/about/default.htm)
NIP	National Immunization Program, a part of the Centers for Disease Control and Prevention, located in Atlanta, Georgia. NIP provides leadership for the planning, coordination, and conduct of immunization activities nationwide.
OCR	Office of Civil Rights. OCR is an office within HHS that, among other duties, is responsible for implementation of the HIPAA Privacy Rule. (http://www.hhs.gov/ocr/)
Privacy Rule	The "Standards Of Privacy Of Individually Identifiable Health Information," a part of HIPAA dealing with national standards for the protection of certain health information. (http://www.hhs.gov/ocr/privacysummary.pdf)
TCP/IP	Transmission Control Protocol / Internet Protocol, a stream-oriented data transmission using length-encoding as the method for bounding messages.
TCP/IP Using MLP	Transmission Control Protocol / Internet Protocol using Minimal Layer Protocol, the most common method used to transmit HL7 messages.
UB-92	HCFA (now CMS) Uniform Bill-92, a uniform institutional claim format used since 1993. There are standard codes associated with information required by the format. http://www.hipaanet.com/hisb_ub92.htm. See, also, http://www.nubc.org/ .
X12	"An ANSI-accredited group that defines EDI standards for many American industries, including health care insurance. Most of the electronic transaction standards mandated or proposed under HIPAA are X12 standards." (Source: http://cms.hhs.gov/glossary/). See, also, http://www.x12.org/
X12 Standard	"The term currently used for any X12 standard that has been approved since the most recent release of X12 American National Standards. Since a full set of X12 American National Standards is only released about once every five years, it is the X12 standards that are most likely to be in active use. These standards were previously called Draft Standards for Trial Use." (Source: http://cms.hhs.gov/glossary/)

Appendix F– Message Samples

This appendix contains sample A08 and A31 messages, including the header and trailer segments. The information contained in these messages is fictitious and was created for illustration purposes only.

[insert Appendix here available via the website www.ndw.ihs.gov.]